DOCUMENT RESUME

ED 169 290 CE 020 475

AUTHOR Howard, John
TITLE T & I--Building Construction, Safety. Kit No. 1. Instructor's Manual [and] Student Learning Activity Guide.
INSTITUTION Clemson Univ., S.C. Vocational Education Media Center.; South Carolina State Dept. of Education, Columbia. Office of Vocational Education.
SPONS AGENCY Office of Education (DHEW), Washington, D.C.
PUB DATE 78
GRANT SC-5058-76-I-211-0330
NOTE 29p.; For related documents see CE 020 474-566
AVAILABLE FROM Vocational Education Media Center, 10 Tillman Hall, Clemson University, Clemson, South Carolina 29631 (complete set of modules, 14 filmstrips and cassettes, $260.00; set of 87 student modules, $42.50)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Behavioral Objectives; *Learning Activities; *Learning Modules; Occupational Clusters; *Occupational Information; Prevocational Education; *Safety Education; *Trade and Industrial Education; Transparencies

ABSTRACT

An instructor's manual and student activity guide on building construction safety are provided in this set of prevocational education materials which focuses on the vocational area of trade and industry. (This set of materials is one of ninety-two prevocational education sets arranged around a cluster of seven vocational offerings: agriculture, home economics, distributive education, health occupations, world of work, trade and industry, and office occupations.) The instructor's guide is organized into the following elements: title of activity, duration of activity (seven-thirteen days), activity goals, instructional objectives (five), related, vocational clusters, and activity implementation (description, materials needed, teacher preparation prior to class, during the class, follow-up activities, answer key for the activity of objective 1, and a master for duplication [the grid sheet for objective III]). The student activity guide provides step-by-step instructions (narrative and illustrations) for completing each instructional objective (e.g., list of fifteen safety rules, choose a safety idea and draw sketch for a poster). At the end of each set of instructions is a student check point (evaluation activity). Occupational descriptions for a safety coordinator and safety inspector conclude the document. (JH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED169290

T & I – BUILDING CONSTRUCTION, SAFETY

Kit No. 1

INSTRUCTOR'S MANUAL

Prepared by

John Howard
Gresham–Meggett AVC
Charleston, South Carolina 29412

State Department of Education
Office of Vocational Education
Prevocational Education
Columbia, South Carolina 29201

In Cooperation With

Vocational Education Media Center
Clemson University
Clemson, South Carolina 29631

1978

CE 020 478

U S DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL BY MICROFICHE ONLY HAS BEEN GRANTED BY

Art Jensen

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND THE ERIC SYSTEM CONTRACTORS."

These materials have been developed from funds provided by Grant SC-5058-76-I-211-0330 under the Appalachian Regional Development Act Amendments of 1967, Department of Health, Education and Welfare, Office of Education.

TITLE OF ACTIVITY

Kit No. 1, T & I – Building Construction, Safety

DURATION

Main Activity – 5 - 10 days
Follow-up Activity – 2 - 3 days

GOALS

The student will understand the proper procedures for preparing a poster on safety

The student will realize the importance of being safety conscious and of being able to avoid accidents while using various tools and equipment.

INSTRUCTIONAL OBJECTIVES

The student will list 15 rules after reading and observing safety rules.

The student will choose a safety idea and draw a rough sketch of it for a poster.

The student will draw an illustration on grid paper.

The student will make a sketch on newsprint or butcher paper.

The student will draw a finished poster that will show the safety idea.

VOCATIONAL CLUSTERS

This information relates to all vocational disciplines as well as leisure time activities.

ACTIVITY IMPLEMENTATION

A. Description

This activity will be done on an individual basis.

B. Safety

No special precautions.

C. Materials

1. Audio Visual Equipment
   Cassette recorder
   Film loop projector

2. Technical Equipment
   Scissors
   25 yardsticks
   Film loop and cassette

3. Expendable Supplies
   25 pencils
   25 felt pens
   5 erasers
   1 roll tape
   10 boxes crayons
   100 sheets 8½ x 11" white scratch paper (21.6 cm x 27.9 cm)
   roll 18 x 24" newsprint or butcher paper (45.7 x 60.96 cm)
   25 poster boards, 24 x 28" (60.96 x 71.1 cm)
   5 sets of poster paint
   10 brushes
   1 - 3 compasses (optional)

D. Preparation Prior to Class

Make a list of safety areas in the building and construction field. Review a list of tools used in this field. Read the student instruction booklet. Tell the students to be thinking of their own ideas on safety and to be prepared to choose one on which to make a poster.

Reproduce enough VIEW Fact Sheets and grid sheets for your class.

Safety Ideas – All of the areas dealing with safety in the building and construction field should be brought to the attention of the students. You may want to have the students draw out of a hat for the safety idea on which to make their poster, or you may let them tell you which safety area they want to cover.

E. During the Class Session

INTRODUCTION – Safety education in the building and construction field is a necessity. For the next few days we are going to discuss the many areas of safety in this field that you should be aware of.

(Proceed with the cassette recordings and the film loop show on safety.)

Each of you will design a poster on the safety idea you chose earlier. You may confer with someone else, but you must do your own drawings. These posters should be as catching and appealing as possible, and they must illustrate a safety idea. The posters will be judged by students and a winner will be chosen. We will discuss each safety idea on the posters and will display the winning posters.

TO THE TEACHER – Distribute the materials and supervise the activity.

Explain to the students that using butcher paper or newsprint to arrange the sketches is cheaper than using poster board. They (students) will make corrections several times before their final sketch is completed. Also explain how to use the grid paper to do their sketches. Demonstrate how to transfer the sketch to the poster board. Tape the newsprint or butcher paper over the poster board. Trace the sketch pressing hard enough to leave an imprint on the poster board.

Demonstrate how to refine the poster and letter print the caption on it.

After the posters are finished, have the students clean up the work area.

F. Follow-up Activities

1. Have students fill out VIEW Fact Sheet.
2. Have each student show poster to the rest of the class.
3. Discuss each safety idea illustrated by the posters.
4. Display the posters.
5. Have students vote on the poster they like the best. The one with the most votes wins.
6. Have students identify safety problems in your room or lab.

ANSWER KEY

Objective I – Check Point

1. Remove outer garments, such as coats and sweaters, prior to beginning your lab work.
2. Turn neckties inside shirts, or remove them while working around machinery.
3. Remove personal jewelry such as rings and watches when working on machinery.
4. No horseplay, or fooling around is ever permitted in lab or shop.
5. Always give warning anytime you observe an unsafe act or condition.
6. Report all injuries immediately even if you think they are insignificant.
7. Long pieces of material should be carried by two people.
8. Cloths containing oils or paints should be deposited in the proper safety containers.
9. Clean up spills and splashes immediately.
10. Always keep aisles and walkways clear.
11. Never leave a board with a protruding nail on the floor.
12. Never use tools with mushroomed ends.
13. Do not carry tools with sharp edges or points in your pockets.
14. Do not use a tool having a broken handle or a loose head.
15. Before connecting an electrical appliance, be sure your hands are dry, the switch is off, the cord is in good condition, and the grounding lug is in use.

MASTERS FOR DUPLICATION

VIEW Fact Sheet
Grid Sheet for Instructional Objective III

VIEW FACT SHEET

NAME _____ CLASS _____ OCCUPATION _____

A. List the advantages (good points) of this occupation (job).

B. List the disadvantages (bad points) of this occupation (job).

C. List three things you should know to do this occupation (job).
1.
2.
3.

D. What type of education should you get to be prepared (do) for this occupation (job)?

E. What courses must you take to go into this occupation (job)?

F. What do you think your future in this occupation (job) will be?

G. What wage can you expect in this occupation (job)?

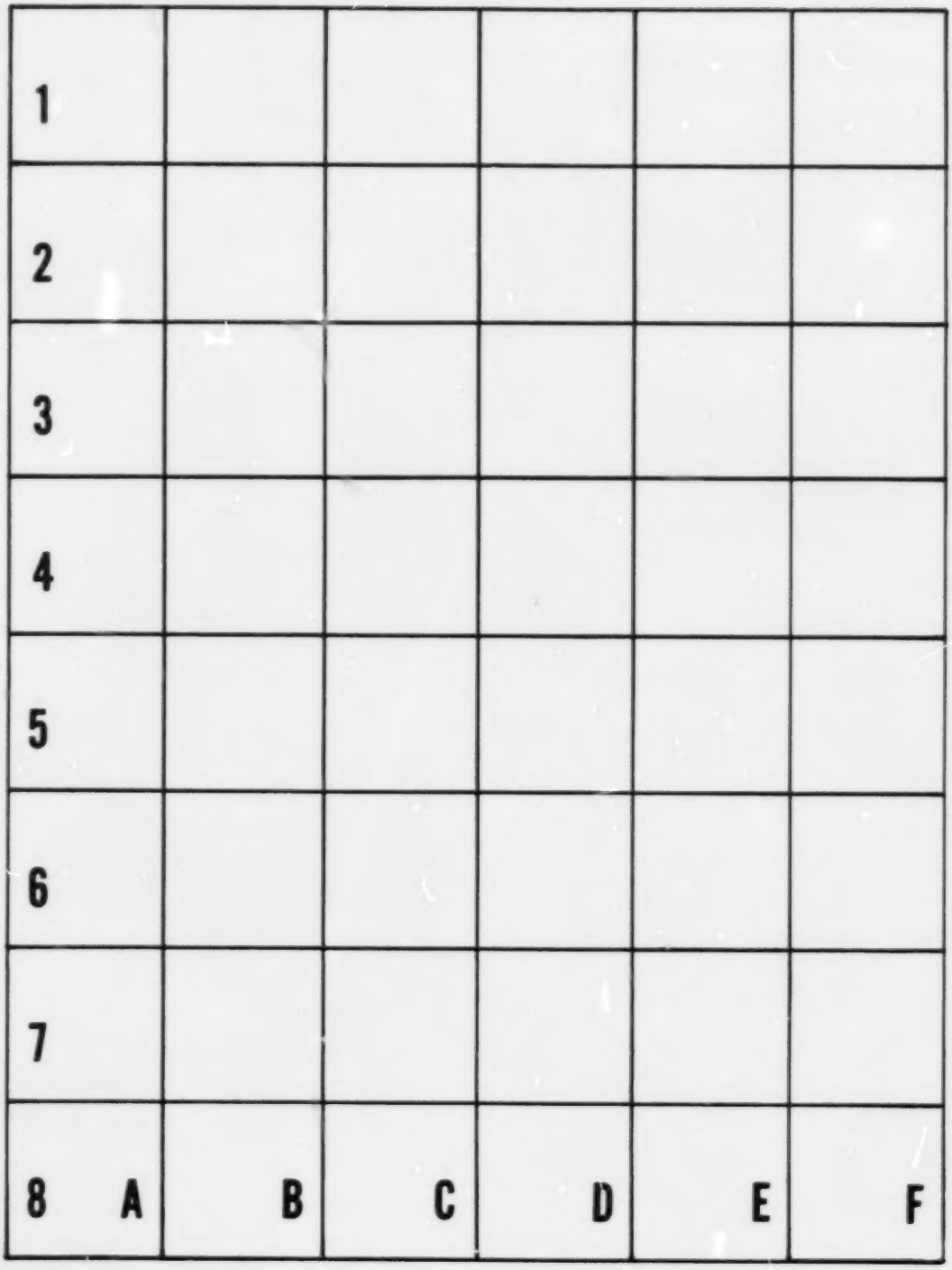
H. What are the working hours of this occupation (job)?

I. To learn more about this occupation (job), write to:

J. Using a scale of 1 to 5, circle the number that measures your interest in this occupation (job) as a possible career.

I don't like it. ← 1 2 3 4 5 → I like it.

3


1
2
3
4
5
6
7
8 A
B
C
D
E
F

T & I – BUILDING CONSTRUCTION, SAFETY

Kit No. 1

STUDENT

LEARNING ACTIVITY GUIDE

Prepared by

John Howard
Gresham–Meggett AVC
Charleston, South Carolina 29412

State Department of Education
Office of Vocational Education
Prevocational Education
Columbia, South Carolina 29201

In Cooperation With

Vocational Education Media Center
Clemson University
Clemson, South Carolina 29631

1978

These materials have been developed from funds provided by Grant SC-5058-76-I-211-0330 under the Appalachian Regional Development Act Amendments of 1967, Department of Health, Education and Welfare, Office of Education.

INTRODUCTION

If you have ever worked with tools, or in the building construction trade, you must know the importance of being safety conscious and of learning the safe use of these tools in order to avoid accidents.

In building construction the responsibility for accident prevention lies both with the company and with the employee. The company is obligated to provide working facilities that are as safe as possible. The employee is obligated to obey all the safety rules and regulations, to use safe practices, and to guard against the possibility of an accident.

In this activity you are going to see several examples of safe and unsafe ways to work with building construction tools, as well as safe and unsafe practices in the building construction trade.

You will be concerned with preparing a poster on safety that will benefit both you and your fellow students.

GOALS

1. The student will be aware of the hazards associated with the building construction trade.
2. The student will be familiar with the proper safety methods and procedures that are used in the building construction trade.
3. The student will understand the proper procedures for preparing and finishing a poster on safety.
4. The student will have a feel for what makes a safety poster educational to the other students.
5. The student will know the importance of following directions.

DIRECTIONS

Read and follow each step with the materials the teacher gives you. Be sure to go over each objective and step. Do not leave any steps out.

Make sure you have met all the requirements of each checkpoint before continuing to the next step. If not, repeat the objective until you have done the checkpoint successfully.

PROGRAMMED TEXT

Instructional Objective 1

The student will list 15 rules after reading and observing safety rules.

STEP 1 – In vocational education courses, there are three categories of general safety rules. These categories are:

1. Good personal habits that will prevent accidents.

2. General activities in working conditions and materials handling.

STEP 2 – Good personal habits

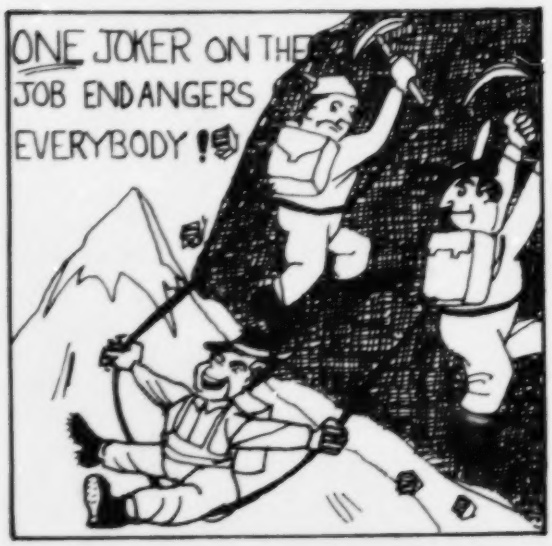
1. Remove outer garments, such as coats and sweaters, prior to beginning your lab work.
2. Wear a well-fitting lab coat or shop apron.
3. Keep sleeves rolled up above your elbow except in classes such as welding.

3. Safety precautions applying to all tools, including hand tools, appliances, and machines.

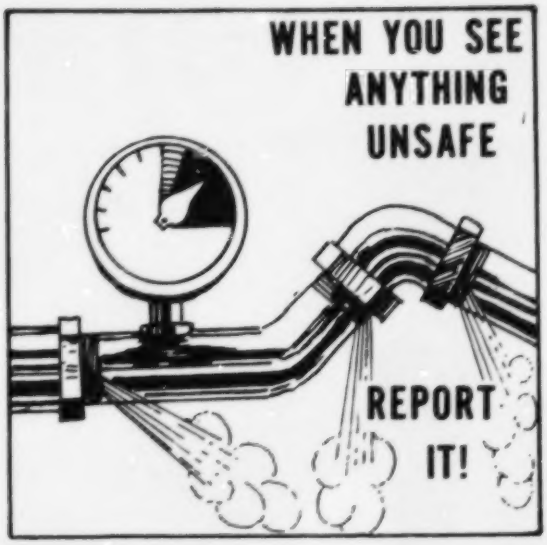
4. Tuck neckties inside shirts, or remove them while working around machinery.

5. Keep your hands clean.
6. Keep long hair in place by using a cap or visor.

7. Remove personal jewelry, such as rings and watches when working on machinery.



8. Always move carefully, at a walk, when in a shop.
9. No horseplay or "fooling around" is ever permitted in a lab or shop.



10. Always give warning any time you observe an unsafe act or condition.

11. Report all injuries immediately, even if you think they might be insignificant. A small cut that becomes infected may develop into a major injury.

1. Long pieces of material should be carried by two persons.

2. Always wear gloves while handling large sheets of metal.

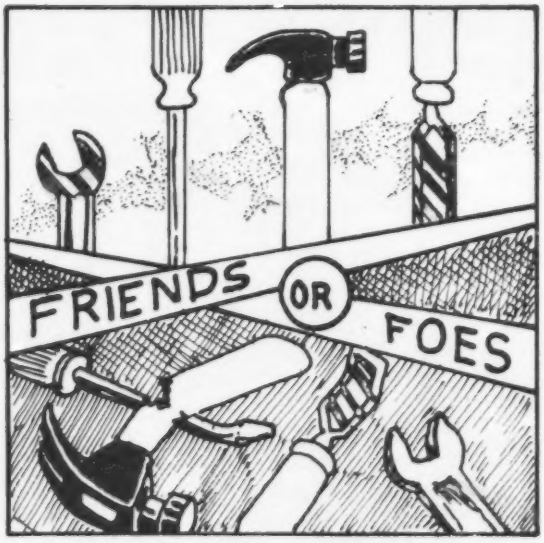
3. Secure the permission of the teacher prior to moving large or heavy objects.

4. Cloths containing oils or paints should be deposited in the proper safety containers.

5. Clean up spills and splashes immediately.

7. Never leave a board with a protruding nail on the floor.

6. Always keep aisles and walkways clear.



STEP 4 – Tool Safety. There are several safety rules that apply generally to all tools, appliances, or machinery. These safety rules are:

1. Never use tools with mushroomed ends.

2. Do not carry tools with sharp edges or points in your pockets.

4. Before connecting an electrical appliance, be sure your hands are dry, the switch is off, the cord is in good condition, and the grounding lug is in use.

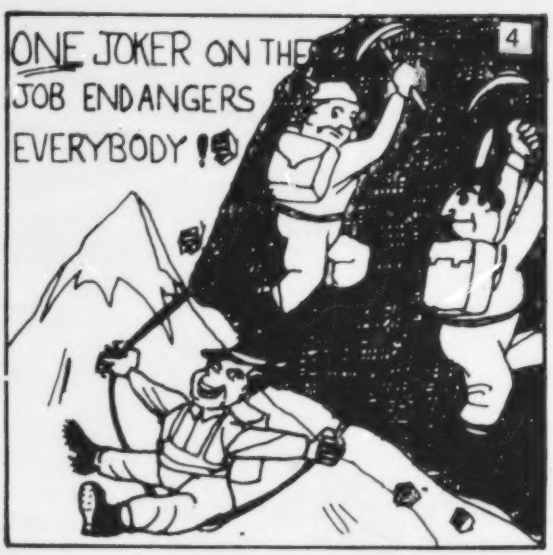
3. Do not use a tool having a broken handle or a loose head.

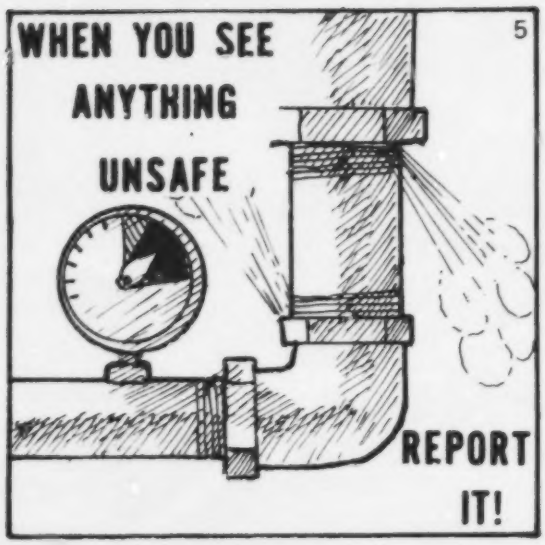
5. Don't attempt to clean or oil a machine while it is in motion.

6. Only the operator is allowed in the operator's zone while the machine is in operation.

Check Point

On a separate sheet of paper, write 1 - 15 and list the safety rules that apply to the following posters.




WHEN YOU SEE
ANYTHING
UNSAFE
5
REPORT
IT!

ELIMINATE A HAZARD
PREVENT AN
ACCIDENT
8

DON'T DUCK IT
6
REPORT INJURIES PROMPTLY!

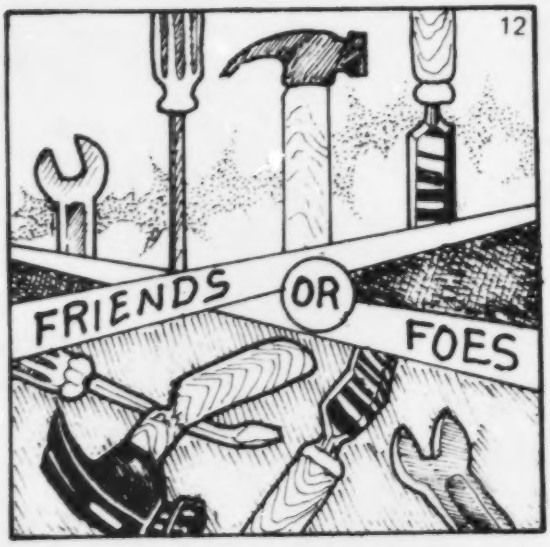
BIG
CRASH
FROM
SMALL
SPLASH
9

THINK
7
WHEN HANDLING MATERIAL!

10
KEEP WALKWAYS CLEAR

A POINT TO REMEMBER
REMOVE PROTRUDING NAILS
11

FAULTY TOOLS CAUSE INJURIES


12
FRIENDS
OR
FOES

ALL SHOOK UP!
15
GROUND IT
BEFORE IT GROUNDS YOU

A POCKET IS NO PLACE FOR TOOLS
13

Instructional Objective II

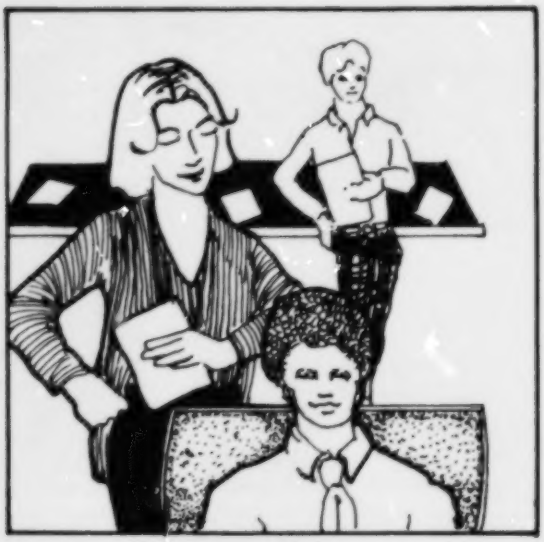
The students will draw a rough sketch on 8½ x 11" white paper for a poster on the safety idea of their choice. (21.6 x 27.9 cm)

STEP 1 – Choose a safety idea, hint, unsafe act, etc., from the material presented to you. Choose an area that you feel will benefit everyone.

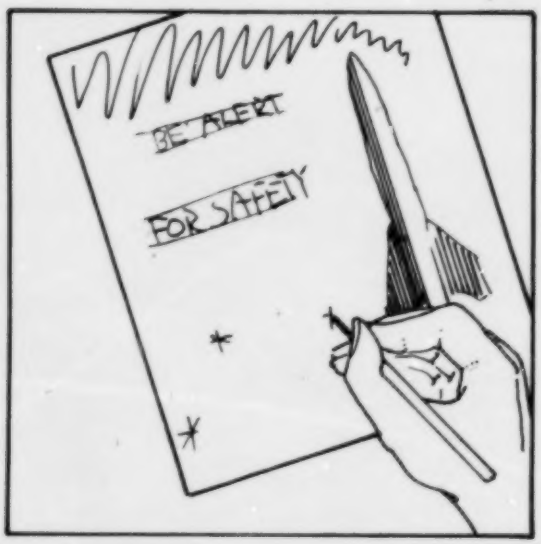
STEP 2 – Decide why you need to make a poster on this area of safety.

STEP 3 – Decide how you would tell a friend about this safety idea.

STEP 4 – Jot your ideas down on a sheet of paper.



STEP 5 – Have a friend look at your ideas and pick the one that looks good to her/him.



STEP 6 – Using the 8½ x 11" white paper, make a rough sketch showing the safety idea that you will develop. Label it to achieve the best effect. If you are not satisfied with your sketch, make another sketch along the same idea.

STEP 7 – After following through with the checkpoints, go on to the next step.

Check Point

Are you satisfied with the sketch you have made?

Is this your best idea for a safety poster?

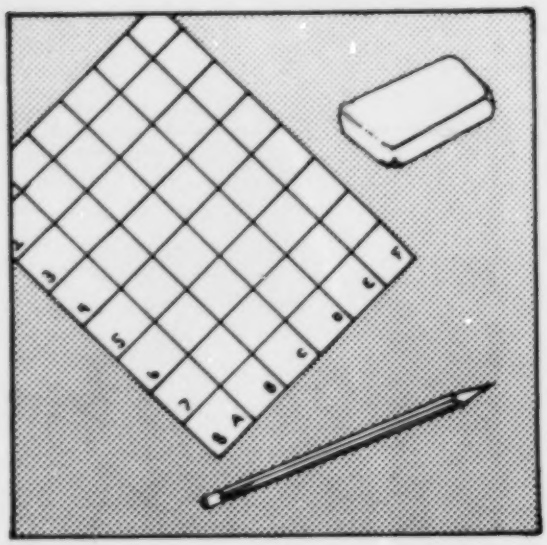
Will this poster benefit the other students?

Does your sketch appear the way you would like your poster to look?

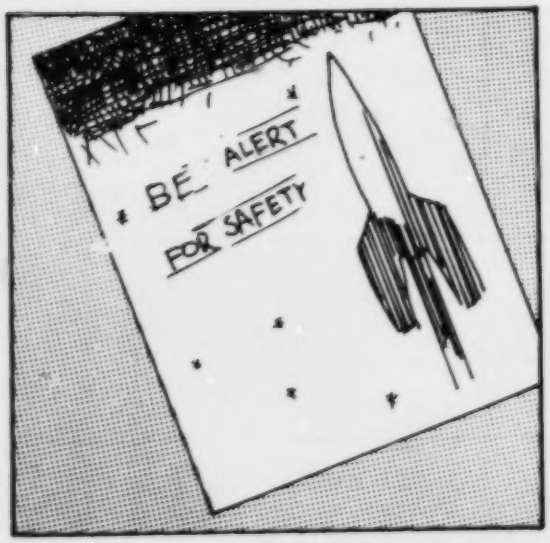
Have your teacher approve your sketch by initialing it before continuing.

Instructional Objective III

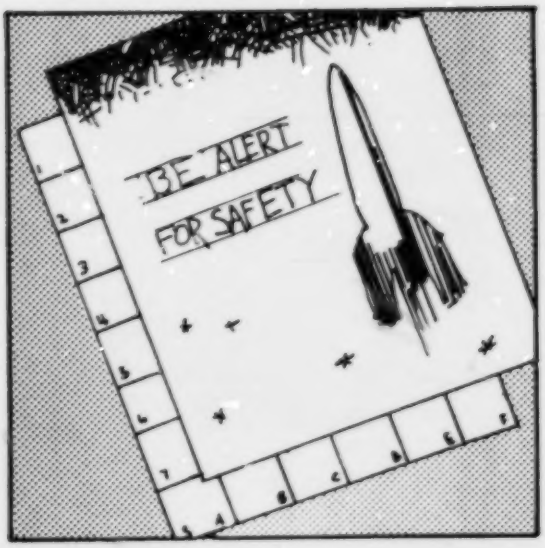
The student will make the illustration of the safety idea on grid paper.



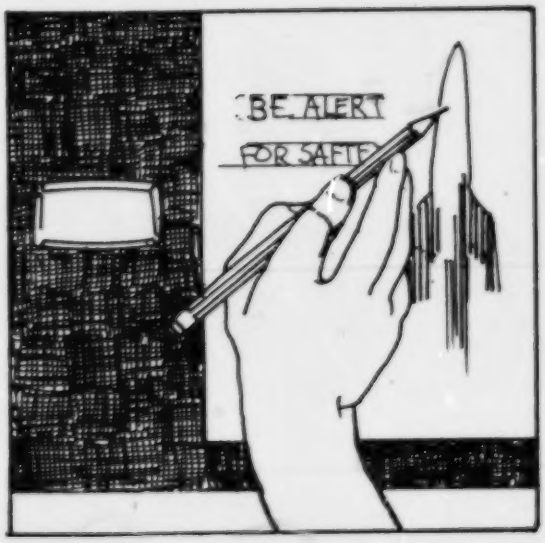
STEP 1 – Make sure you have a pencil and eraser and grid paper.



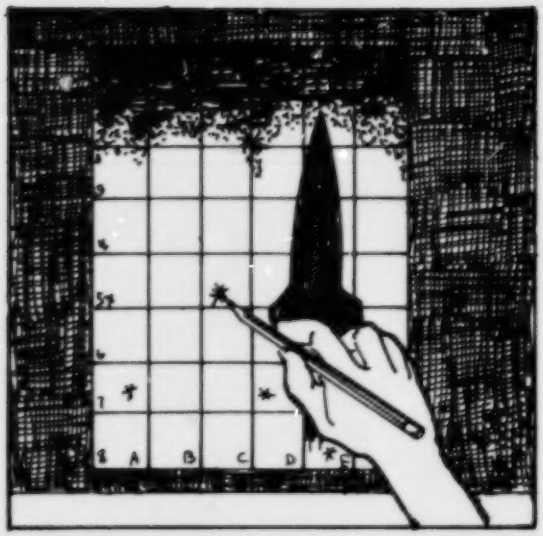
STEP 2 – Have your rough sketch in front of you.



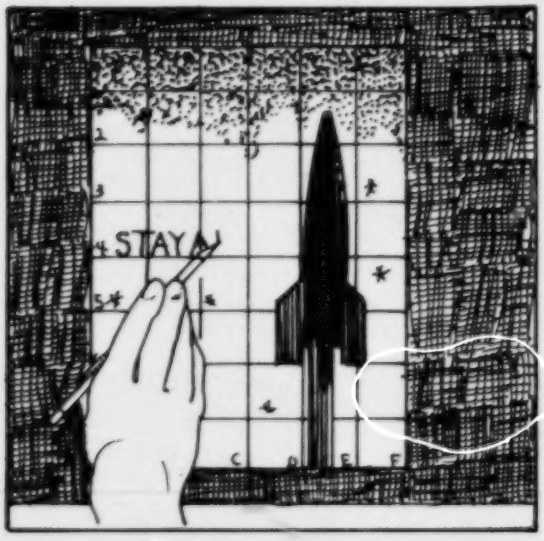
STEP 3 – Place your sketch on top of the grid sheet.



STEP 4 – Press down and resketch your sketch so the impression will transfer to the grid paper.



STEP 5 – Now draw your sketch on the grid sheet with a pencil.



STEP 6 – Letter print a suitable slogan or caption on your sketch.

Check Point

Did your sketch transfer well onto the grid sheet?

Do you now have the right proportions?

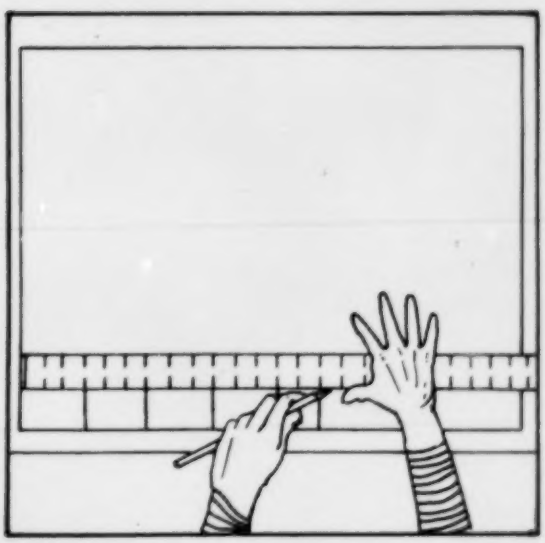
Does your layout look ready to transfer to the poster board?

Have the teacher approve your sketch before continuing.

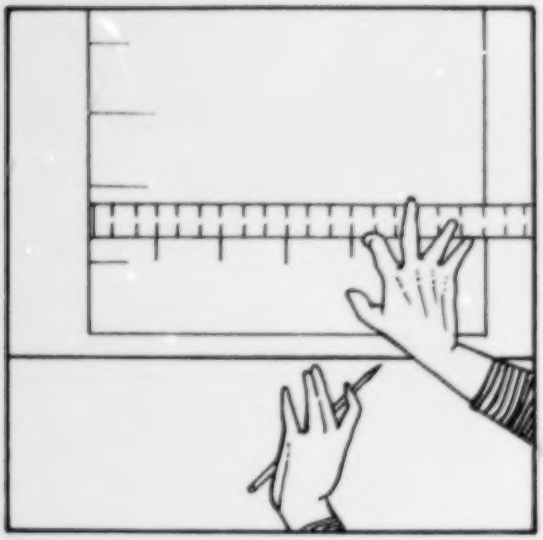
Instructional Objective IV

The student will make the grid of 3" (7.6 cm) squares on 18 x 24" (45.7 x 60.96 cm) newsprint or butcher paper.

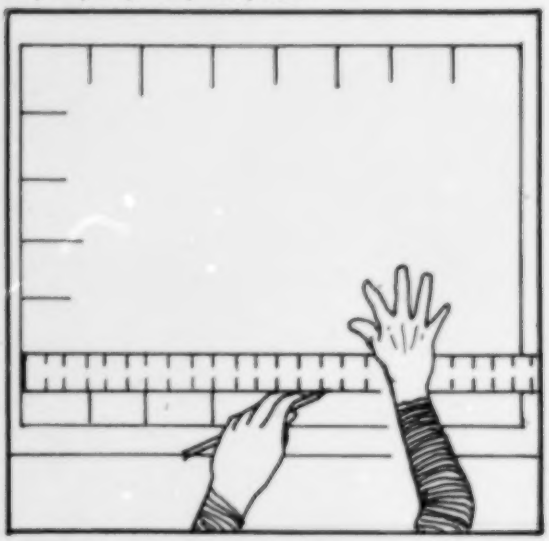
STEP 1 – Assemble all necessary materials: pencil, 18 x 24" newsprint or butcher paper and eraser.



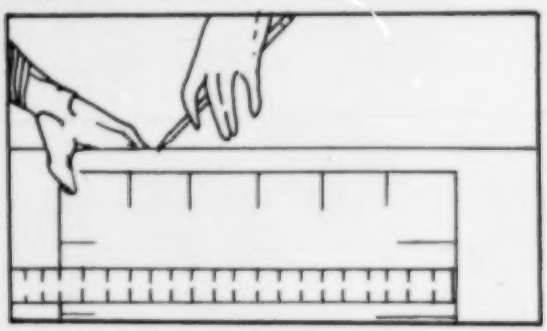
STEP 2 – Start on a long side and measure and mark every 3 inches on the butcher paper. Ex. 3", 6", 9", 12", 15", 18", 21", etc.



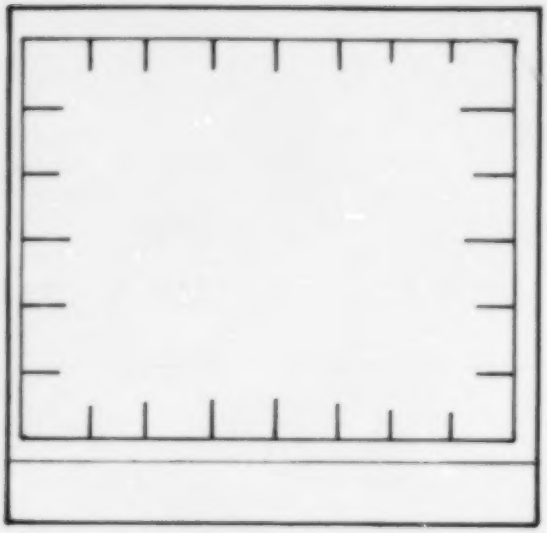
STEP 3 – Now measure and mark every 3 inches on the short side of the paper. Ex. 3", 6", 9", 12", 15", etc.



STEP 4 – Repeat step No. 2 for the other long side of the paper.

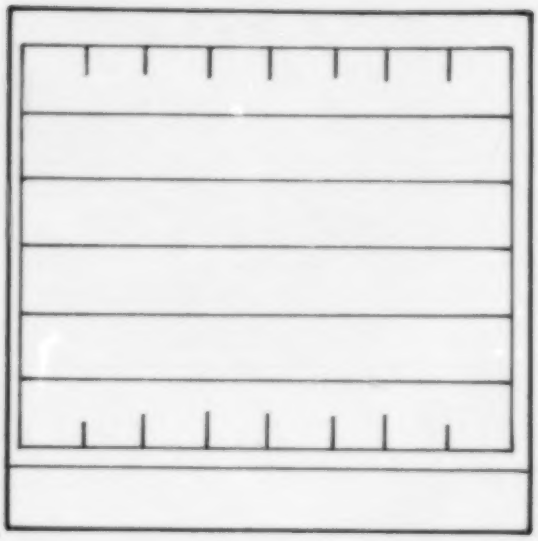


STEP 5 – Repeat step No. 3 for the other short side of the paper.



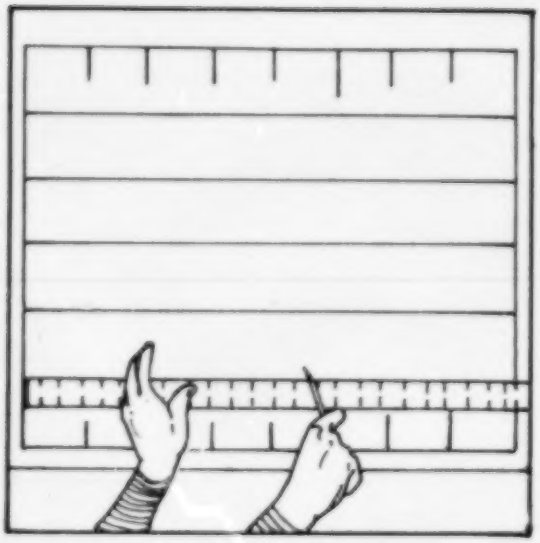
Check Point

Does your paper look like the drawing? If so, proceed; if not, recheck your steps.

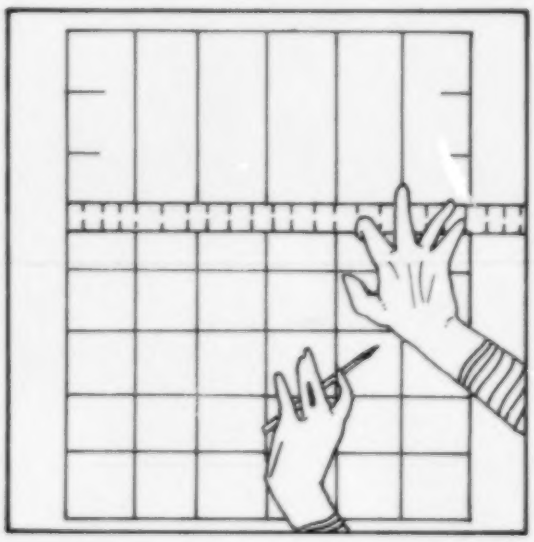


Check Point

Does your paper look like this.



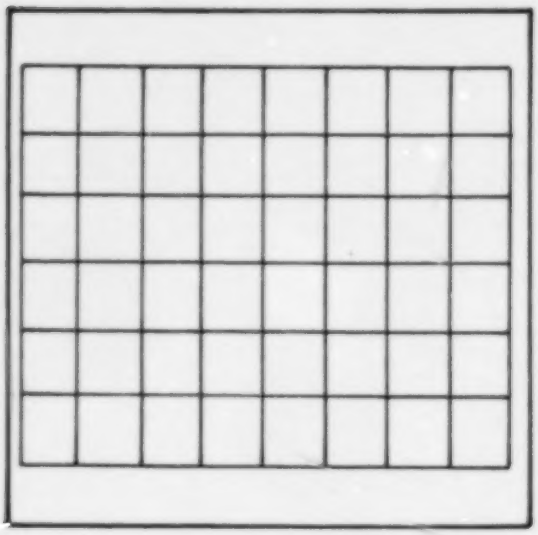
STEP 6 – Connect all long lines with your yardstick.



STEP 7 – Now connect the short lines with your yardstick.

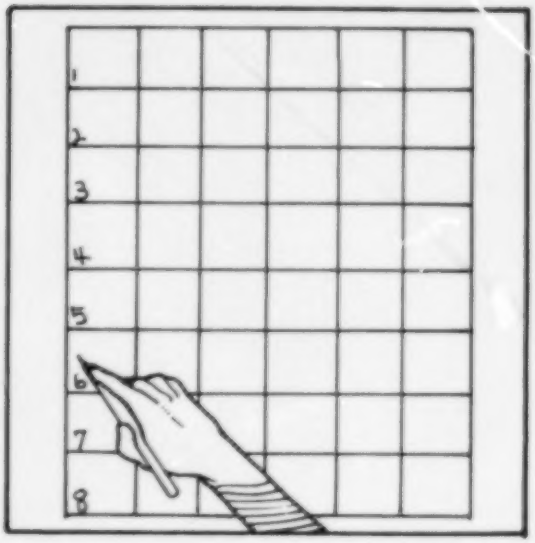
Check Point

Does your paper look like this:

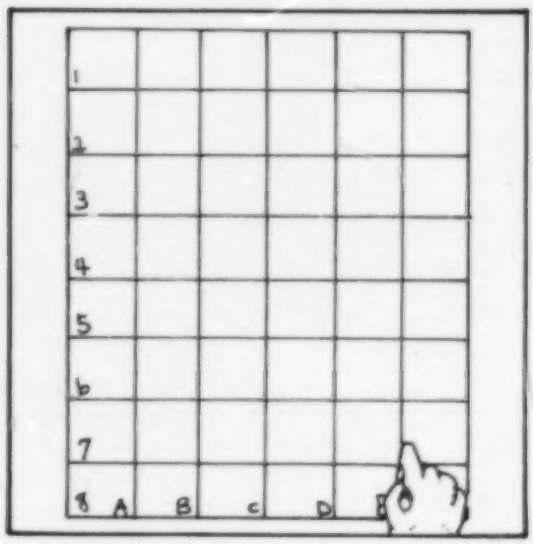


Instructional Objective V

The student will transfer the sketch from the small grid sheet to the 3 inch grid sheet. (7.6 cm)



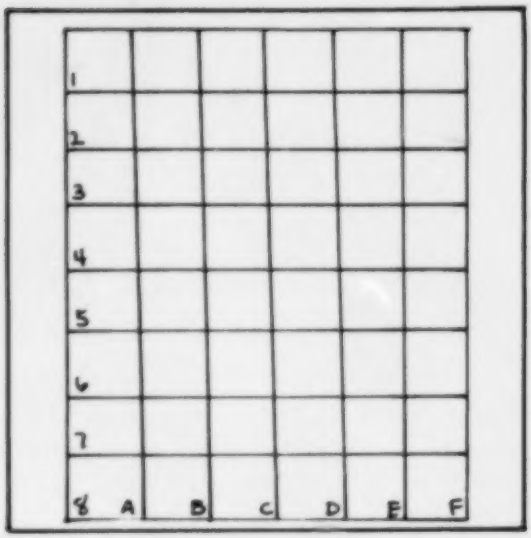
STEP 1 – Number the bottom boxes on the long side of your paper 1 - 8.

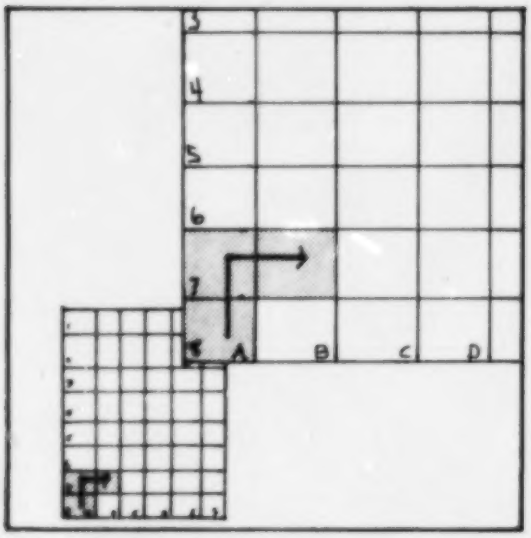


STEP 2 – Letter the short side blocks A - F.

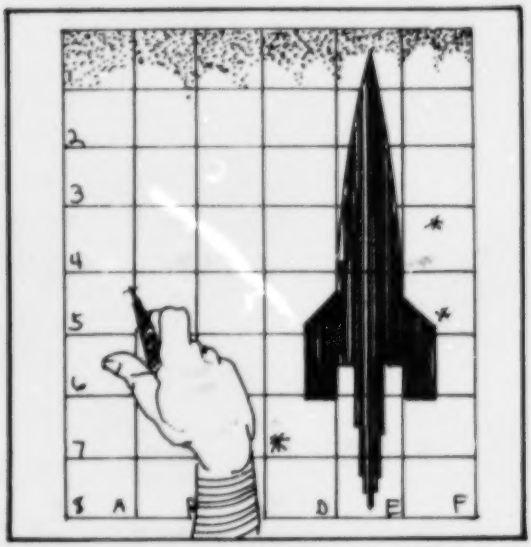
Check Point

Does your large sheet of paper look like this:





STEP 3 – Look at the grid sketch and use same squares on 3 inch grid paper as on the small grid paper to transfer the sketch to the newsprint or butcher paper. Ex. Two squares up and one square over on the small grid means two squares up and one square over on the 3 inch grid.

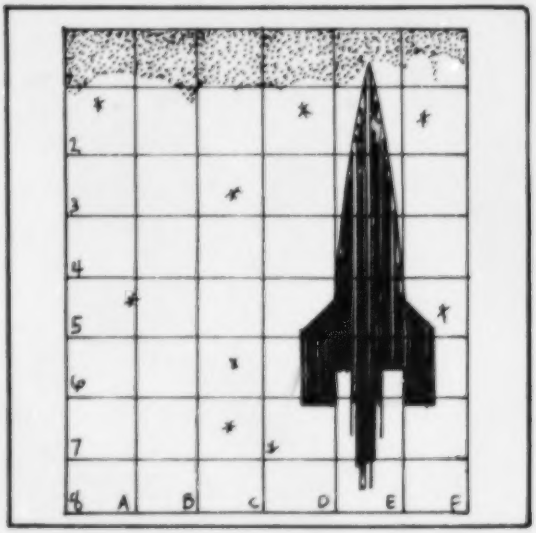


STEP 4 – Transfer safety idea onto newsprint or butcher paper. Be careful to get the right proportions.

Check Point

Make all corrections before going on.

Is this exactly like you want your poster to appear?

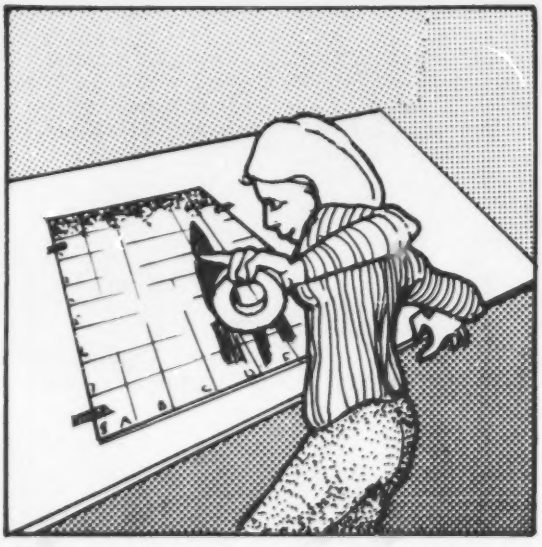


Get your teacher's approval.

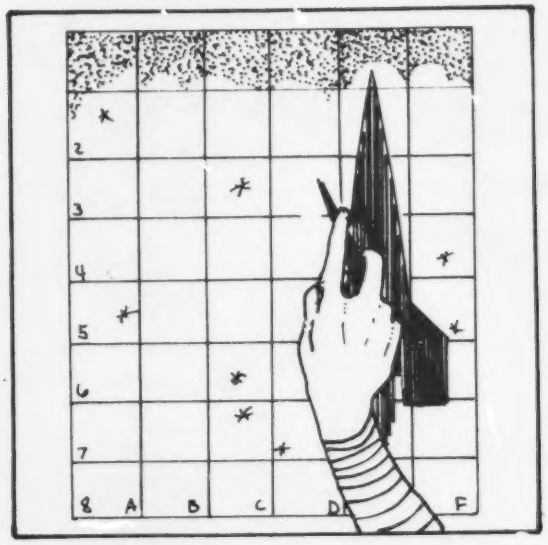
Instructional Objective VI

The student will follow directions and make a finished poster on his safety idea.

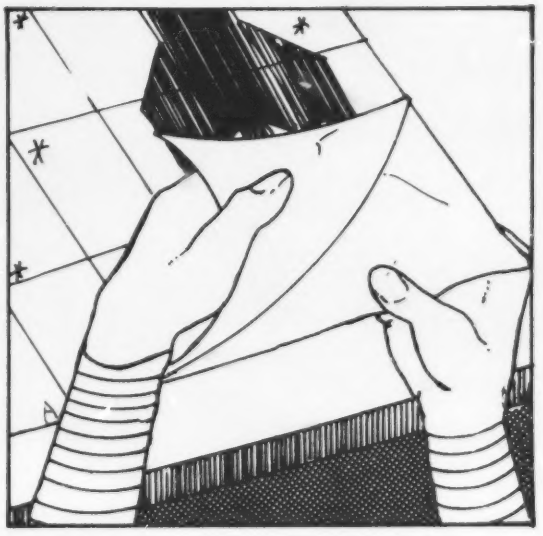
STEP 1 – Assemble all the materials necessary to complete your poster. (Pencil, tape, newsprint or butcher paper, poster board, crayons, felt pens, and poster paint brush).



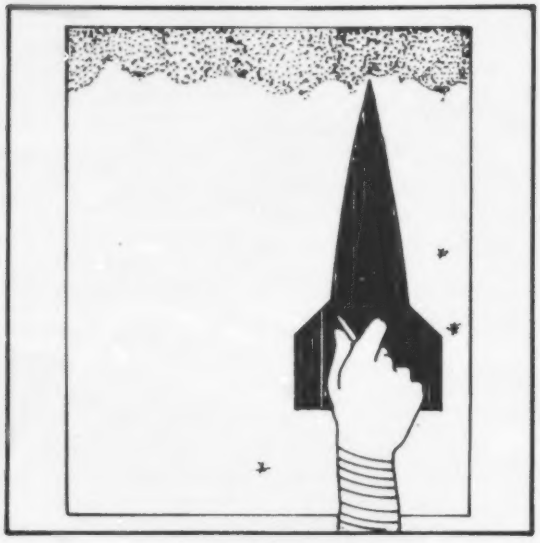
STEP 2 – Tape the newsprint sketch on top of the poster board. Make sure it is taped on square with all sides even.



STEP 3 – Trace over the sketch on the newsprint or butcher paper hard enough to leave an impression on the poster board underneath.

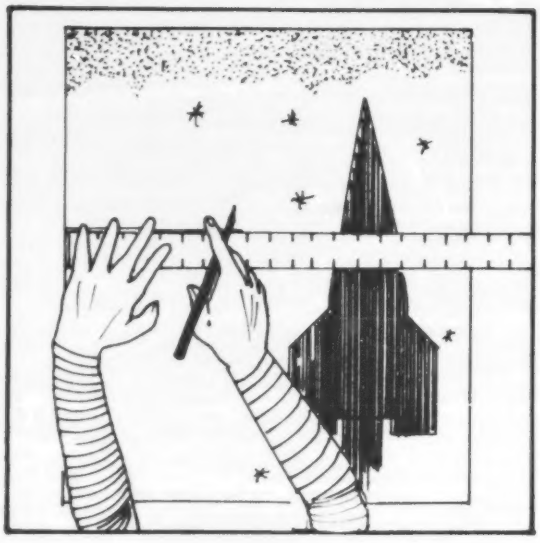


STEP 4 – Remove the butcher paper after you have traced over the entire sketch.



STEP 5 – Go over the impression left on the poster board with a pencil.

STEP 7 – Using the crayons, magic markers, or poster paint, color in the poster.



STEP 6 – Set up guidelines for lettering your slogan on the poster board.

STEP 8 – Check to see that the poster is now in its finished form.

STEP 9 – Clean up your work area.

Check Point

Is the poster as refined as you wanted?

Is the poster as appealing as you wanted it to be?

Are you satisfied that this is your best work?

Does this poster help others realize the true nature of safety?

Get your teacher's final approval.

OCCUPATIONAL DESCRIPTIONS

909.127-010 SAFETY COORDINATOR (motor trans.) supervisor.

Coordinates safety traffic program and instructs truck and trailer drivers in matters pertaining to traffic and safety regulations, and care of equipment: Instructs drivers regarding company regulations, penalties for infraction of rules, or safety and conservation measures. Rides with drivers to detect errors in handling cargo or driving vehicle. Patrols highway to detect violation of company regulations by drivers and to observe condition of vehicles and road. Reroutes truck as a result of unsatisfactory road conditions. Investigates accidents involving company trucks, questions witnesses and drivers to determine causes of accidents and makes adjustments in accordance with governmental regulatory agencies' and company procedures. Directs transfer of cargo from damaged truck to substitute vehicle to insure scheduled delivery. Analyzes accident reports obtained from governmental agencies to determine driver's need for additional training. Trains supervisors in such matters as safety and conservation of equipment and driving hazards. Confers with department heads concerning such problems as accident rates and abuse of equipment, and recommends measures to improve safety records and to conserve equipment.

168.264-014 SAFETY INSPECTOR (any ind.) safety technician.

Inspects machinery, equipment, and working conditions in industrial or other setting to insure compliance with occupational safety and health regulations: Inspects machines and equipment for accident prevention devices. Observes workers to determine use of prescribed safety equipment, such as glasses, helmets, goggles, respirators, and clothing. Inspects specified areas for fire-prevention equipment and other safety and first-aid supplies. Tests working areas for noise, toxic, and other hazards, using decibel meter, gas detector, and light meter. Prepares report of findings with recommendations for corrective action. Investigates accidents to ascertain causes for use in recommending preventive safety measures and developing safety program. May demonstrate use of safety equipment.